DPM 2210

McDONNELL DOUGLAS CORPORATION

U.S. DEPARTMENT OF LABOR
WORKPLACE STANDARDS ADMINISTRATION
BUREAU OF LABOR STANDARDS

FORM NO OSHA-20 (MODIFIED)
MAY 1971

MDC CONTROL NO._____

MATERIAL SAFETY DATA SHEET

*Trademark of M&T Chemicals Inc.

SECTION I: MATERIAL AND MANUFACTURER IDENTIFICATION

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
M&T Chemicals Inc.	201-499-2401-during office hours
ADDRESS (NUMBER, STREET, CITY, STATE AND ZIP CODE)	8:30 am - 4:30 pm
P.O. Box 1104, Rahway, New Jersey 07065	201-499-2445 -- after hours
CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS
	Unichrome* 218-X
CHEMICAL FAMILY	FORMULA Proprietary formulation of vinyl resins (54%) plasticizer (37%) and pigment (9%)

SECTION II: HAZARDOUS INGREDIENTS*

PAINTS, PRESERVATIVES/SOLVENTS	%	TLV (UNITS)	ALLOYS AND METALLIC COATINGS	%	TLV (UNITS)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES*	%	TLV (UNITS)

SECTION III: PHYSICAL DATA

BOILING POINT (°F)		SPECIFIC GRAVITY (H_2O = 1)	
VAPOR PRESSURE (mm Hg.)		PERCENT VOLATILE BY VOLUME (%)	
VAPOR DENSITY (AIR = 1)		EVAPORATION RATE (_____ = 1)	
SOLUBILITY IN WATER			

APPEARANCE AND ODOR Resinous material -- free flowing paste

SECTION IV: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED)	FLAMMABLE LIMITS	Lel	Uel
465°F (T.O.C.)			

EXTINGUISHING MEDIA

CO_2

SPECIAL FIRE FIGHTING PROCEDURES

UNUSUAL FIRE AND EXPLOSION HAZARDS

*PLEASE DO NOT USE GENERALIZATIONS, SUCH AS PETROLEUM HYDROCARBONS, ALCOHOL, KETONES. USE SPECIFIC CHEMICAL NAMES, SUCH AS METHANOL, BENZENE, PERCHLOROETHYLENE.

SECTION V: HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE

EFFECTS OF OVEREXPOSURE

Upon massive and prolonged exposure, this material may cause eye and skin irritation. Inhal on of vapors may be irritating. Probably slightly to moderately toxic by ingestion.

EMERGENCY AND FIRST AID PROCEDURES

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician. Flush skin with water. For inhalation, remove individual to a non-contaminated area.

SECTION VI: REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	

INCOMPATIBILITY (MATERIALS TO AVOID)

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII: SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Soak up spills and incinerate. Flush spill area with water.

WASTE DISPOSAL METHOD

Observe all federal, state and local regulations regarding health and pollution in the disposal of chemicals.

SECTION VIII: SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE)

VENTILATION	LOCAL EXHAUST: Use with adequate ventilation	SPECIAL
	MECHANICAL (GENERAL)	OTHER

PROTECTIVE GLOVES: Rubber gloves	EYE PROTECTION: Chemical safety goggles

OTHER PROTECTIVE EQUIPMENT

SECTION IX: SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Store and use in conformity with normal standards of good practice for handling industrial paints.

OTHER PRECAUTIONS Store above freezing and below 100°F. Excessive heat will cause a progressive increase in viscosity and gelling. Launder contaminated clothing before re-use.

Ruth A Kaufman — PREPARED BY

3-8-72 — DATE

Trademark

UNICHROME* RACK COATING 218-X

Instructions for Use on Plating Racks

Unichrome Rack Coating 218-X is a coating of the 100% solids plastisol type. It is a free-flowing paste which remains at its original consistency until fused at 355° to 365°F. After fusing, the material becomes an exceptionally tough coating which resists attack by plating solutions, cleaners, dips, and vapor degreasing cycles. The coating is tough enough to withstand rough shop handling.

M&T* Primer 227-P is designed to afford excellent bond strength and adhesion during service. This white primer shifts to a buff color after baking thus indicating thoroughness of cure.

Metal Preparation

Racks to be coated should be thoroughly cleaned. Poor cleaning can result in lack of adhesion between the primer and the metal.

Racks not previously coated may be cleaned (1) in a hot alkaline cleaner followed by a water rinse, suitable acid dip, and thorough drying; or (2) given a light sandblast. In some cases, a copper strike followed by thorough rinsing and drying is used as means of preparation.

Previously coated racks. It is essential that the old rack coating be completely removed. If the old coating was a lacquer-type material, its thinner will usually either dissolve the coating or soften it so that it can be removed mechanically. Old plastisol rack coatings can be removed with Unichrome Stripper 120. After the old coating has been removed, the rack should be further cleaned by using one of the methods described above for racks not previously coated.

M&T PRIMER 227-P

Typical Physical Properties

Viscosity:	16 seconds #2 Zahn cup at 77°F
Thinner for viscosity adjustment:	M&T Thinner 200-T
Total solids:	25%
Flash point:	Less than 80°F

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Typical Physical Properties (Continued)

Wt/gal.:	7.9 lbs.
Coverage:	Approx. 750 sq. ft/gal. at 0.3 to 0.5 mil.

Application

1. **Prime with one coat of M&T Primer 227-P.** Dipping is preferred but spraying or brushing may be used. M&T Primer 227-P, which is shipped at a viscosity range of 15 to 17 seconds #2 Zahn cup, is normally applied full-bodied without further reduction for dip or brush application. At this viscosity, dry film thicknesses range from 0.3 to 0.5 mils. **Films heavier than 0.5 mils are to be avoided.** M&T Thinner 200-T should be used to maintain the primer at its original viscosity.

On very large plating racks, it is sometimes necessary to reduce M&T Primer 227-P with M&T Thinner 200-T to maintain primer thickness of less than 0.5 mils. The amount of M&T Thinner 200-T normally required will not exceed one volume thinner to two volumes primer.

For spray applications, M&T Primer 227-P should be thinned in the ratio of three volumes of primer to one volume of M&T Thinner 200-T. A wet, non-hiding film should be sprayed so as to deposit a total dried film thickness of approximately 0.3 to 0.5 mils.

2. **Dry M&T Primer 227-P.** Air-dry 10 to 30 minutes. Insufficient flash-off time may cause blistering during subsequent baking.

After air-drying, bake 15 to 30 minutes in an oven set at 365° to 400°F. (Note: The temperatures given here are oven temperatures, not rack metal temperatures.)

While the rack is hot, proceed immediately to apply Unichrome Rack Coating 218-X, as outlined below.

Application of Unichrome Rack Coating 218-X

1. **Dip hot rack in Unichrome Rack Coating 218-X.** While still hot from the primer baking operation, the

(over)

M&T CHEMICALS INC.
SUBSIDIARY OF AMERICAN CAN COMPANY
GENERAL OFFICES: RAHWAY, NEW JERSEY 07065

7343 Paramount Blvd., PICO RIVERA, CA 90660 / 270 E. Grand Ave., S. SAN FRANCISCO, CA 94080 / 3379 Peachtree Rd., N.E., ATLANTA, GA 30326 / 2100 Pratt Blvd., ELK GROVE VILLAGE, IL 60007 / 415 E. 151st St., E. CHICAGO, IN 46312 / 20820 Greenfield Rd., DETROIT, MI 48237 / 631 Chestnut St., S.W., GRAND RAPIDS, MI 49502 / 470 N. Kirkwood Rd., KIRKWOOD, MO 63122 / 7710 Reading Rd., CINN., OH 45237 / 20325 Centeridge Rd., ROCKY RIVER, OH 44116 / 100 Presidential Blvd., N., BALA-CYNWYD, PA 19004, / 530 Exchange Bank & Trust Tower, DALLAS, TX 75235 / M&T Products of Canada, Ltd., Box 3070, Sta. C, Hamilton, ONTARIO

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rack is immediately dipped into Coating 218-X which is at room temperature. The rack should remain immersed from 2 to 5 minutes.

2a. Drain rack; trim drippings. The draining time should be 5 minutes or longer, depending on the design of the rack. Drippings may be trimmed while wet by using a small rod or spatula.

2b. If contacts are to be sealed, the rack is heated to a metal temperature of 355°F after Step 2a, above. The contacts are then trimmed and the cut edges are coated with Unichrome Rack Coating 218-X, using a small stick or brush, before the final baking in Step 3, below.

2c. If contacts are not to be sealed, proceed to Step 3, below.

Baking

3. Bake rack at 355° to 365°F. Heat the rack to a metal temperature of 355° to 365°F and then bake at this temperature for not less than 20 minutes. The setting of the oven thermostat, and the time required to bring the rack temperature up to 355°F varies with rack size and bulk and the oven. The heating-up time is usually 10 to 35 minutes. Thus the total baking time will generally range between 30 and 55 minutes.

NOTE: In establishing a baking-time cycle where a number of identical racks are to be coated, it is recommended that temperature readings be taken by means of a thermocouple attached to the hook or some other uncoated portion of the coated rack. The baking schedule for Step 3, above, can then be established by adding 20 minutes to the time required to bring the rack up to 355° to 365°F.

A coating baked below 355°F is not completely fused and will not give optimum service. Care should also be exercised to prevent overbaking at temperatures above 365°F.

4. Trim contacts with a sharp knife (if not previously done in Step 2b, above). The rack is then ready to use. Owing to the superior cut resistance of Unichrome Rack Coating 218-X, the contacts can best be trimmed while the rack is still warm.

Patching

Unichrome Compound 264, a putty-like material, is used for repairing mechanically-damaged coatings as follows:

1. Remove, by thorough water rinsing, any plating chemicals that have dried on the coating surface.

2. Dry the coating at 150° to 225°F for 15 to 30 minutes.

3. Trim the loose, ragged, damaged sections of the coating and feather all edges.

4. If only a small amount of bare metal is exposed, there is no need for repriming. If the area is large, brush M&T Primer 227-P on the bare metal and overlap 1 to 2 inches on the surrounding coating. Air-dry the prime coat as in Step 2, page 1.

5. Apply Unichrome Compound 264 like putty with the fingers or a blade. Smooth the final surface by wetting the fingers with water and lightly rubbing them over the patch.

6. Bake the entire rack in an oven held at 300° to 310°F until the rack metal temperature reaches 300°F. Baking time will depend upon the weight of rack.

7. Brush 2 to 3 coats of Unichrome Air-Dry Patching Lacquer 230 over the area coated with Unichrome Compound 264, allowing 5 to 10 minutes air-drying time between coats. After the last coat has been applied, dry the rack for 10 to 30 minutes in a hot-air drying unit at about 160°F.

8. Remove the rack and, after baking, place back in service.

CAUTION: Do not store Unichrome Rack Coating 218-X above 100°F. Excessive heat will cause a progressive increase in viscosity and gelling.

M&T Primer 227-P, M&T Thinner 200-T, Unichrome Patching Lacquer 230 contain volatile solvents. See Precautionary Information below.

PRECAUTIONARY INFORMATION

Storage: This coating material should be stored and used in accordance with normal standards of good practice for handling industrial paints.

Caution: Contains volatile solvents. Keep away from heat, sparks and open flames. Store at temperatures above freezing and below 105°F. Keep containers closed when not in use.

Use: Maintain adequate ventilation in working area. Wear approved respirators and protective clothing when working in confined areas. Avoid repeated breathing of concentrated vapors. Prolonged contact of liquid material with the skin may be irritating; wash exposed surface thoroughly with soap and water. In case of eye contact, flush out the eyes with water for 15 minutes and consult a physician.

For Industrial Use Only